University of California
College of Agriculture
Agricultural Experiment Station
Berkeley, California

SEASONAL LABOR NEEDS FOR CALIFORNIA CROPS

TEHAMA COUNTY

Progress Report No. 52

by

R. L. Adams

Preliminary -- Subject to Correction

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(Farm Labor Survey -- July-December, 1936)

Progress Report No. 52

Seasonal Labor Needs for California Crops

Tehama County

Scope of Presentation.-- The following considerations govern the presentation of this progress report:

1. The data are confined to the area indicated above.

2. The data are confined solely to crops, livestock needs being ignored.

3. The findings apply only to occasional or seasonal labor requirements as distinguished from labor contributed by farm operators and by workers employed on a year-round or regular basis of employment.

4. Attention is concentrated upon workers required for hand tasks -- planting, thinning, weeding, hoeing, harvesting -- without including teamsters, tractor drivers, irrigators, and shed packers of vegetables and fruits.

5. The presentation includes the so-called migratory, transient, or roving workers which comprise an important source of help needed in connection with certain tasks and at "peak" times which seasonally arise in connection with many field, truck, and fruit crops commercially produced in California.

6. This report is confined to California's need for seasonal agricultural workers because of the more pressing problems liable to arise in connection therewith. A later study is planned which will deal with other kinds of labor involved in the production of California's many crops.

Brief Description of the Area.-- Tehama County lies at the northern end of the Sacramento Valley about midway between the Pacific Coast and the Nevada line. The county is enclosed by hills on the eastern, northern, and western boundaries, with the southern boundary being generally level lands or slightly rolling hills. The county extends about 80 miles in length east and west and about 40 in width north and south. The total area of Tehama County is 1,872,000 acres of which 203,956 acres are classified as available for crops by the United States Census of 1935. This is further classified for the crop year 1934 as follows:

	Acreage
Crop land harvested	63,702
Crop failure	1,654
Crop land idle or fallow	20,383
Plowable pasture	118,217
Total land available for crops	203,956

The principal farming area is located in the central part of the county with minor and inconsequential areas along the creek bottoms.

Crops, Acreages, and Production.--The basis used in calculating occasional or seasonal need for labor, other than that furnished by farm operators and regularly employed workers, appears as table 1.

(Farm Labor Survey -- July-December, 1936)

Progress Report No. 82

Seasonal Labor Needs for California Crops

Tehama County

Scope of Presentation.-- The following considerations govern the presentation of this progress report:

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2. The data are confined solely to crops, livestock needs being ignored.

3. The findings apply only to occasional or seasonal labor requirements as distinguished from labor contributed by farm operators and by workers employed on a year-round or regular basis of employment.

4. Attention is concentrated upon workers required for hand tasks -- planting, thinning, weeding, hoeing, harvesting -- without including teamsters, tractor drivers, irrigators, and shed packers of vegetables and fruits.

5. The presentation includes the so-called migratory, transient, or roving workers which comprise an important source of help needed in connection with certain tasks and at "peak" times which seasonally arise in connection with many field, truck, and fruit crops commercially produced in California.

6. This report is confined to California's need for seasonal agricultural workers because of the many pressing problems likely to arise in connection therewith. A later study is planned which will deal with other kinds of labor involved in the production of California's many crops.

Brief Description of the Area.-- Tehama County lies at the northern end of the Sacramento Valley about midway between the Pacific Coast and the Nevada line. The county is enclosed by hills on the eastern, northern, and western boundaries, with the southern boundary being generally level lands or slightly rolling hills. The county extends about 80 miles in length east and west and about 40 in width north and south. The total area of Tehama County is 1,872,000 acres of which 203,988 acres are classified as available for crops by the United States Census of 1935. This is further classified for the crop year 1934 as follows:

	Acreage
Crop land harvested	63,703
Crop failure	1,884
Crop land idle or fallow	20,388
Plowable pasture	118,217
Total land available for crops	203,988

The principal farming area is located in the central part of the county with minor and inconsequential areas along the creek bottoms.

Crops, Acreage, and Production.--The basis used in calculating seasonal or seasonal need for labor, other than that furnished by farm operators and regularly employed workers, appears as table 1.

TABLE 1

Basis for Calculating Seasonal Labor Requirements
Tehama County

Crop	Acreage	Production
Field Crops*:		
Alfalfa	5,565	21,094 tons
Grain -- barley	22,865	457,738 bushels -- 21,931,000 pounds
oats	2,650	57,375 bushels -- 1,833,000 pounds
wheat	6,424	70,003 bushels -- 4,200,000 pounds
Hay -- other than alfalfa †	11,023	14,445 tons
Hops	164	1,200 bales of 190 pounds ‡
Potatoes -- Irish †	99	13,399 bushels -- 803,000 pounds
Sorghums -- for grain	2,098	66,506 bushels -- 28,650 sacks
Vegetable crops -- no commercial acreage reported.		
Fruit and nut crops:		
Almonds	1,591	954,000 pounds
Apples †	159	--
Apricots	824	3,296 tons of which 1,100 tons were dried ‡
Cherries †	82	--
Figs -- Kadota †	115	--
others †	152	--
Olives	2,082	(2,119 1/2 tons canning § (818 1/2 tons not canning
Nectarines	100	800 tons
Peaches -- freestones	1,759	15,000 tons of which 7,200 tons were dried ‡
clingstones	236	500 tons
Prunes	3,331	5,000 tons (dry weight) ‡
Walnuts	245	(144,400 pounds merchantable ¶ 88 tons (31,600 pounds culls (estimated)

* Acreage and production of field crops is from 1935 Census, with the exception of hops.

† Use of seasonal labor on these crops inconsequential due to small acreage or production and hence has been ignored.

‡ Drying ratios used in this report are:

Hops	--	4 to 1	Peaches	--	6 to 1
Apricots	--	5 1/2 to 1	Prunes	--	3 to 1

§ Olive production estimated by California Olive Association for 1935.

¶ Production of merchantable walnuts is from Walnut Control Board -- figure for 1935 crop.

TABLE 1

Basis for Calculating Seasonal Labor Requirements
Tehama County

Crop	Acreage	Production
Field Crops:		
Alfalfa	8,505	21,094 tons
Grain -- barley	22,888	457,728 bushels -- 21,821,000 pounds
oats	2,850	57,276 bushels -- 1,835,000 pounds
wheat	6,424	70,002 bushels -- 4,200,000 pounds
Hay -- other than alfalfa †	11,025	14,444 tons
Hops	164	1,200 bales of 190 pounds †
Potatoes -- Irish †	90	15,292 bushels -- 805,000 pounds
Sorghum -- for grain	2,028	66,808 bushels -- 28,880 sacks
Vegetable crops -- no commercial acreage reported.		
Fruit and nut crops:		
Almonds	1,891	884,000 pounds
Apples †	188	--
Apricots	824	5,298 tons of which 1,100 tons were dried †
Cherries †	82	--
Figs -- Kadota †	116	--
others †	182	--
Olives	2,082	(2,119 1/2 tons canning ¶ (818 1/2 tons not canning
Nectarines	100	800 tons
Peaches -- freestones	1,769	16,000 tons of which 7,200 tons were dried †
clingstones	228	800 tons
Prunes	8,281	6,000 tons (dry weight)†
Walnuts	246	(144,400 pounds merchantable 88 tons (31,600 pounds walls (estimated)

* Acreage and production of field crops is from 1958 Census, with the exception of hops.

† Use of seasonal labor on these crops inconsequential due to small acreage or production and hence has been ignored.

‡ Drying ratios used in this report are:

Hops	--	4 to 1	Peaches -- 6 to 1
Apricots	--	5 1/2 to 1	Prunes -- 3 to 1

¶ Olive production estimated by California Olive Association for 1958.

Production of merchantable walnuts is from Walnut Control Board -- Figure for 1958 crop.

Operations Requiring Seasonal Labor and Times of Need.-- Farm operations requiring the use of seasonal or occasional labor for the various crops raised in Tehama County are indicated in table 2. This tabulation does not include the employing of shed workers needed to wash, pack, and prepare various commodities for shipping and marketing.

TABLE 2

Operations Requiring Use of Seasonal Labor and Times of Need by Crops
Tehama County

Crop	Operation	Time of need by month	Per cent of work done by seasonal help	Output per man-day
Field crops:				
Alfalfa -- average 6 cuttings	Mowing	April 15-30 -- 60 per cent of acreage	50	8 acres
	Raking	May -- 90 per cent of acreage		15 acres
	Shocking	June -- 90 per cent of acreage		30 acres
		July -- 90 per cent of acreage		
		August -- 90 per cent of acreage		
		September -- 90 per cent of acreage		
		October -- 90 per cent of acreage		
	Baling -- 60 per cent of tonnage	May -- 1/6 of job		4 tons
		June -- 1/6 of job		
		July -- 1/6 of job		
		August -- 1/6 of job		
		September -- 1/6 of job		
		October -- 1/6 of job		
Grain -- barley, oats, and wheat	Harvesting -- with combine	June 15-30 -- 50 per cent of acreage	66	6 acres
		July 1-15 -- 50 per cent of acreage		
Hops	Pruning, stringing, training, etc.	March 1-31 -- 30 per cent of job	100	Total of 12 man-days per acre
		April 1-30 -- 30 per cent of job		
		May 1-31 -- 30 per cent of job		
		June 1-15 -- 10 per cent of job		
	Picking	August 10-31 -- 2/3 of crop	100	200 pounds (green weight)
		September 1-10 -- 1/3 of crop		

Table continued on next page.

Operations Requiring Seasonal Labor and Times of Need.-- Farm operations requiring the use of seasonal or occasional labor for the various crops raised in Tehama County are indicated in table 2. This tabulation does not include the employing of shed workers needed to wash, pack, and prepare various commodities for shipping and marketing.

TABLE 2

Operations Requiring Use of Seasonal Labor and Times of Need by Crops in Tehama County

Crop	Operation	Time of need by month	Per cent of work done by seasonal help	Output per man-day
Field crops: Alfalfa -- average 6 cuttings	Mowing Raking Shocking	April 15-30 -- 80 per cent of acreage May -- 90 per cent of acreage June -- 90 per cent of acreage July -- 90 per cent of acreage August -- 90 per cent of acreage September -- 90 per cent of acreage October -- 90 per cent of acreage	80	8 acres 15 acres 30 acres
	Baling -- 80 per cent of tonnage	May -- 1/6 of job June -- 1/6 of job July -- 1/6 of job August -- 1/6 of job September -- 1/6 of job October -- 1/6 of job		4 tons
Grain -- barley, oats, and wheat	Harvesting -- with combine	June 15-30 -- 80 per cent of acreage July 1-15 -- 80 per cent of acreage	88	8 acres
Hops	Training, stringing, training, etc.	March 1-31 -- 30 per cent of job April 1-30 -- 30 per cent of job May 1-31 -- 30 per cent of job June 1-15 -- 10 per cent of job	100	Total of 12 man-days per acre
	Picking	August 10-31 -- 2/3 of crop September 1-10 -- 1/3 of crop	100	200 pounds (green weight)

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Table 2 continued.

Crop	Operation	Time of need by month	Per cent of work done by seasonal help	Output per man-day
Hops (cont.)	Drying	August 10-31 -- 2/3 of crop September 1-10 -- 1/3 of crop	75	4,000 pounds (green weight)
	Baling	September 10-30	60	15 bales of 190 pounds net
Sorghums -- for grain	Cutting heads (by hand) -- 75 per cent of acreage	September -- 10 per cent of job October -- 80 per cent of job November -- 10 per cent of job	33	0.75 acre
	Threshing -- 75 per cent of crop	October -- 75 per cent of job November -- 25 per cent of job	66	100 sacks (13,000 pounds)
	Harvesting (with combine) -- 25 per cent of acreage	October -- 90 per cent of acreage November -- 10 per cent of acreage	50	5 acres
Fruit and nut crops:				
Almonds	Pruning	November -- 50 per cent of acreage December -- 50 per cent of acreage	50	2 acres
	Knocking	August 15-31 -- 35 per cent of crop September 1-30 -- 65 per cent of crop	50	300 pounds
	Hulling (by machine)	August 15-31 -- 35 per cent of crop September 1-30 -- 65 per cent of crop	50	400 pounds
Apricots	Pruning	November 15-30 -- 1/6 of acreage December 1-31 -- 1/3 of acreage January 1-31 -- 1/3 of acreage February 1-15 -- 1/6 of acreage	80	0.2 acre
	Brush disposal	December -- 25 per cent of acreage January -- 25 per cent of acreage February -- 25 per cent of acreage March -- 25 per cent of acreage	50	2.5 acres

Table 2 continued on next page.

Table 2 continued.

Crop	Operation	Time of need by month	Per cent of work done by seasonal help	Output per man-day
Hops (cont.)	Drying	August 10-31 -- 2/3 of crop September 1-10 -- 1/3 of crop	75	4,000 pounds (green weight)
	Baling	September 10-30	60	16 bales of 180 pounds net
Sorghum -- for grain	Cutting heads (by hand) -- 75 per cent of acreage	September -- 10 per cent of job October -- 50 per cent of job November -- 10 per cent of job	35	0.75 acre
	Threshing -- 75 per cent of crop	October -- 75 per cent of job November -- 25 per cent of job	65	100 sacks (13,000 pounds)
	Harvesting (with combine) -- 25 per cent of acreage	October -- 90 per cent of acreage November -- 10 per cent of acreage	90	5 acres
Fruit and nut crops: Almonds	Pruning	November -- 80 per cent of acreage December -- 80 per cent of acreage	80	2 acres
	Knocking	August 15-31 -- 35 per cent of crop September 1-30 -- 65 per cent of crop	80	800 pounds
	Hulling (by machine)	August 15-31 -- 35 per cent of crop September 1-30 -- 65 per cent of crop	80	400 pounds
Apricots	Pruning	November 15-30 -- 1/4 of acreage December 1-31 -- 1/3 of acreage January 1-31 -- 1/3 of acreage February 1-15 -- 1/6 of acreage	80	0.2 acre
	Brush disposal	December -- 25 per cent of acreage January -- 25 per cent of acreage February -- 25 per cent of acreage March -- 25 per cent of acreage	80	2.5 acres

Table 2 continued on next page.

Table 2 continued.

Crop	Operation	Time of need by month	Per cent of work done by seasonal help	Output per man-day
Apricots (cont.)	Thinning	April 15-31 -- all of acreage	100	1/7 acre
	Picking	June 20-30 -- 75 per cent of crop July 1-15 -- 25 per cent of crop	100	1,200 pounds
	Cutting	June 20-30 -- 75 per cent of job July 1-15 -- 25 per cent of job	100	600 pounds
	Other dry-yard labor	June 20-30 -- 75 per cent of job July 1-15 -- 25 per cent of job	75	11 man-hours per fresh ton*
Nectarines	Pruning	November 15-30 -- 1/6 of acreage December 1-31 -- 1/3 of acreage January 1-31 -- 1/3 of acreage February 1-28 -- 1/6 of acreage	80	0.2 acre
	Brush disposal	December -- 25 per cent of acreage January -- 25 per cent of acreage February -- 25 per cent of acreage March -- 25 per cent of acreage	50	2.5 acres
	Thinning	May 1-31 -- all of acreage	100	1/6 acre
	Picking	July 1-31 -- 70 per cent of crop August 1-15 -- 30 per cent of crop	100	1,500 pounds
	Packing (on farms)	July 1-31 -- 70 per cent of crop August 1-15 -- 30 per cent of crop	100	125 boxes = 2,000 pounds
Olives	Picking for pickling, etc.	September 20-30 -- 3 per cent of job October 1-31 -- 80 per cent of job November 1-30 -- 17 per cent of job	85	6 boxes = 210 pounds
	Picking for oil	December 1-31 -- 20 per cent of job January 1-31 -- 60 per cent of job February 1-28 -- 20 per cent of job	85	450 pounds

Table continued on next page.

Table 2 continued.

Crop	Operation	Time of need by month	Per cent of work done by seasonal help	Output per man-day
Peaches	Pruning	November 15-30 -- 1/6 of acreage December 1-31 -- 1/3 of acreage January 1-31 -- 1/3 of acreage February 1-15 -- 1/6 of acreage	80	0.2 acre
	Brush disposal	February -- 50 per cent of acreage March -- 50 per cent of acreage	50	2.5 acres
	Spraying	November -- once on 3/4 acreage February -- once on 1/4 acreage June -- once on 3/4 acreage	66	1.33 acres
	Thinning	May 1-31 -- all of job	100	1.6 acre
	Picking -- freestones	July 20-31 -- 25 per cent of crop August 1-31 -- 75 per cent of crop	100	60 boxes (3,000 pounds)
	Cutting for drying -- freestones	July 20-31 -- 25 per cent of job August 1-31 -- 75 per cent of job	100	1,500 pounds
	Other dry-yard labor	July 20-31 -- 20 per cent of job August 1-31 -- 80 per cent of job	100	11 1/2 hours per fresh ton*
	Packing for shipment -- freestones	July 20-31 -- 75 per cent of job August 1-5 -- 25 per cent of job	100	80 boxes = 1,600 pounds
	Picking -- clingstones	August 1-31 -- all of crop	100	2,000 pounds
Prunes	Pruning -- all of acreage	November 15-30 -- 1/6 of acreage December 1-31 -- 1/3 of acreage January 1-31 -- 1/3 of acreage February 1-15 -- 1/6 of acreage	90	60 trees (0.85 acre)
	Brush disposal	February -- 50 per cent of acreage March -- 50 per cent of acreage	90	2.5 acres
	Picking	September 1-30 -- all of crop	100	1 ton

Table continued on next page.

Table 2 continued.

Crop	Operation	Time of need by month	Per cent of work done by seasonal help	Output per man-day
Prunes (cont.)	Dipping and drying (by dehydrator) -- 75 per cent of crop	September 1-30 -- all of job	66	6 man-hours per fresh ton †
	(by sun) -- 25 per cent of crop	September 1-30 -- 90 per cent of job October 1-10 -- 10 per cent of job	66	8.3 man-hours per fresh ton*
Walnuts	Knocking and hulling (by hand)	October 1-31 -- all of crop	50	200 pounds

* From Christie, A. W. and L. C. Barnard. The principles and practice of sun-drying fruit. California Agr. Exp. Sta. Bul. 388:40-60. 1925.

† From Christie, A. W., revised by P. F. Nichols. The dehydration of prunes. California Agr. Exp. Sta. Bul. 404:7. 1929.

Findings of Seasonal Labor Needs.-- Details and summary of seasonal labor needs of Tehama County are presented as table 3. The "size of job" are figures drawn from table 1 in terms of either acreage or output in tons, crates, boxes, or whatever unit is commonly used. The "output per man-day" is an average figure for the entire acreage or output figured in packed crates, hampers, or boxes (in case of fruits). If the work is of a nature that requires a crew, different members of which perform different tasks, then the average shown is per man based on the entire crew. Length of day is 8 hours, November to February, 9 hours March to October, unless otherwise stated. Wide variations in output occur between farm and farm, field and field, season and season, because of differences in soil types, climatic conditions, weeds, yields, and other factors influencing the amount of work that a laborer can perform in a given day. Moreover the basis of output is a mature experienced male worker, without reference to use of women, children, and more or less inexperienced help that is sometimes used in connection with certain of the tasks requiring use of seasonal workers. The column headed "available days" reflects (a) limitations set from the period within which the work must be performed because of the nature of the task, such as transplanting, thinning, weeding, and cutting, and (b) available days as determined by weather conditions, inclement weather reducing the number of days when a required task can be performed. The "required number of individuals" is given in terms of workers as noted above in connection with "output per man-day."

TABLE 3

Seasonal Labor Needs -- Tehama County -- by Months and Tasks

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
January	Apricots: Pruning	220 acres †	0.2 acre	1,100	17	65
	Brush burning	103 acres †	2.5 acres	42	17	3
	Nectarines: Pruning	27 acres †	0.2 acre	135	17	8
	Brush disposal	12 acres †	2.5 acres	5	17	1
	Olives: Picking for oil	417 tons †	450.0 pounds	1,854	17	110
	Peaches: Pruning	532 acres †	0.2 acre	2,660	17	157
	Prunes: Pruning	999 acres †	0.85 acre	1,176	17	70
	Totals			6,972	17	411 man-months ‡
February	Apricots: Pruning	110 acres †	0.2 acre	550	9	62 (Feb. 1-15)
	Brush disposal	103 acres †	2.5 acres	42	18	3
	Nectarines: Pruning	13 acres †	0.2 acre	65	18	4
	Brush disposal	13 acres †	2.5 acres	6	18	1
	Olives: Picking for oil	139 tons †	450.0 pounds	618	18	35
	Peaches: Pruning	266 acres †	0.2 acre	1,330	9	148 (Feb. 1-15)
	Brush disposal	499 acres †	2.5 acres	200	18	12
	Spraying	332 acres †	1.33 acres	250	18	14
	Prunes: Pruning	500 acres †	0.85 acre	589	9	66 (Feb. 1-15)
	Brush disposal	1,499 acres †	2.5 acres	600	18	34
	Totals			4,250	18	237 man-months
March	Hops: Pruning, stringing, and training	164 acres	§	591	19	32
	Apricots: Brush disposal	103 acres †	2.5 acres	42	19	3
	Nectarines: Brush disposal	13 acres †	2.5 acres	6	19	1
	Peaches: Brush disposal	499 acres †	2.5 acres	200	19	11
	Prunes: Brush disposal	1,499 acres †	2.5 acres	600	19	32
	Totals			1,439	19	76 man-months
April	Alfalfa: Mowing	1,670 acres †	8.0 acres	209	11	19 (April 15-30)
	Raking	1,670 acres †	15.0 acres	112	11	11 (April 15-30)
	Shocking	1,670 acres †	30.0 acres	56	11	6 (April 15-30)

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Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
April (cont.)	Hops: Pruning, stringing, and training	164 acres	§	591	21	29
	Apricots: Thinning	824 acres	1/7 acre	5,768	11	525 (April 15-30)
	Totals			6,736	21	321 man-months
May	Alfalfa: Mowing	2,504 acres †	8.0 acres	313	22	15
	Raking	2,504 acres †	15.0 acres	167	22	8
	Shocking	2,504 acres †	30.0 acres	84	22	4
	Baling	1,055 tons †	4.0 tons	264	22	12
	Hops: Pruning, stringing, and training	164 acres	§	591	22	27
	Nectarines: Thinning	100 acres	1/6 acre	600	22	28
	Peaches: Thinning	1,995 acres	1/6 acre	11,970	22	543
	Totals			13,989	22	636 man-months
June	Alfalfa: Mowing	2,504 acres †	8.0 acres	313	25	13
	Raking	2,504 acres †	15.0 acres	167	25	7
	Shocking	2,504 acres †	30.0 acres	84	25	4
	Baling	1,055 tons †	4.0 tons	264	25	11
	Grain: Harvesting (with combine)	10,540 acres †	6.0 acres	1,757	13	136 (June 15-30)
	Hops: Pruning, stringing, and training	164 acres	§	197	13	16 (June 1-15)
	Apricots: Picking	2,472 tons	1,200.0 pounds	4,120	9	458 (June 20-30)
	Cutting	825 tons	600.0 pounds	2,750	9	306 (June 20-30)
	Other dry-yard labor	619 tons †	¶	755	9	84 (June 20-30)
	Peaches: Spraying	997 acres †	1.33 acres	750	25	30
	Totals			11,157	25	447 man-months
July	Alfalfa: Mowing	2,504 acres †	8.0 acres	313	26	13
	Raking	2,504 acres †	15.0 acres	167	26	7
	Shocking	2,504 acres †	30.0 acres	84	26	4
	Baling	1,055 tons †	4.0 tons	264	26	11
	Grain: Harvesting (with combine)	10,540 acres †	6.0 acres	1,757	13	136 (July 1-15)
	Apricots: Picking	824 tons	1,200.0 pounds	1,374	13	107 (July 1-15)
	Cutting	275 tons	600.0 pounds	917	13	71 (July 1-15)
	Other dry-yard labor	206 tons †	¶	252	13	20 (July 1-15)
	Nectarines: Picking	560 tons	1,500.0 pounds	747	26	29
	Packing (on farms)	560 tons	1.0 ton	560	26	22

Table continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
July (cont.)	Peaches — freestones: Picking	3,750 tons	3,000.0 pounds	2,500	9	278 (July 20-31)
	Cutting (for drying)	1,800 tons	1,500.0 pounds	2,400	9	267 (July 20-31)
	Other dry-yard labor	1,440 tons	¶	1,656	9	184 (July 20-31)
	Packing (for shipment)	5,850 tons	1,600.0 pounds	7,313	9	813 (July 20-31)
	Totals			20,304	26	781 man-months
August	Alfalfa: Mowing	2,504 acres †	8.0 acres	313	26	13
	Raking	2,504 acres †	15.0 acres	167	26	7
	Shocking	2,504 acres †	30.0 acres	84	26	4
	Baling	1,055 tons †	4.0 tons	264	26	11
	Hops: Picking	608,000 pounds ‖	200.0 pounds ‖	3,040	17	179 (Aug. 10-31)
	Drying	456,000 pounds †‖	4,000.0 pounds ‖	114	17	7 (Aug. 10-31)
	Almonds: Knocking	166,950 pounds †	300.0 pounds	557	13	43 (Aug. 15-31)
	Hulling (by machine)	166,950 pounds †	400.0 pounds	418	13	33 (Aug. 15-31)
	Nectarines: Picking	240 tons	1,500 pounds	320	13	25 (Aug. 1-15)
	Packing (on farms)	240 tons	1.0 ton	240	13	19 (Aug. 1-15)
	Peaches -- freestones: Picking	11,250 tons	3,000.0 pounds	7,500	26	289
	Cutting (for drying)	5,400 tons	1,500 pounds	7,200	26	278
	Other dry-yard labor	5,760 tons	¶	6,621	26	255
	Packing (for shipment)	1,950 tons	1,600.0 pounds	2,438	4	610 (Aug. 1-5)
	clingstones: Picking	500 tons	1.0 ton	500	26	20
	Totals			29,776	26	1,146 man-months
September	Alfalfa: Mowing	2,504 acres †	8.0 acres	313	25	13
	Raking	2,504 acres †	15.0 acres	167	25	7
	Shocking	2,504 acres †	30.0 acres	84	25	4
	Baling	1,055 tons †	4.0 tons	264	25	11
	Hops: Picking	304,000 pounds ‖	200.0 pounds ‖	1,520	8	190 (Sept. 1-10)
	Drying	228,000 pounds †‖	4,000.0 pounds ‖	57	8	8 (Sept. 1-10)
	Baling	720 bales †	15.0 bales	48	17	3 (Sept. 10-30)
	Sorghums -- for grain: Cutting heads (by hand)	52 acres †	0.75 acre	70	25	3
	Almonds: Knocking	310,050 pounds †	300.0 pounds	1,034	25	42
	Hulling (by machine)	310,050 pounds †	400.0 pounds	776	25	32
	Olives: Picking for pickling	51 tons †	210.0 pounds	486	9	54 (Sept. 20-30)
	Prunes: Picking	15,000 tons	1.0 ton	15,000	25	600
	Dipping and drying (by dehydrator)	7,425 tons †	¶	4,950	25	198
	Dipping and drying (by sun)	2,228 tons †	¶	2,026	25	82

Table continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
September (cont.)	Totals			26,795	25	1,072 man-months
October	Alfalfa: Mowing	2,504 acres†	8.0 acres	313	20	16
	Raking	2,504 acres†	15.0 acres	167	20	9
	Shocking	2,504 acres†	30.0 acres	84	20	5
	Baling	1,055 tons †	4.0 tons	264	20	14
	Sorghums -- for grain: Cutting heads (by hand)	420 acres †	0.75 acre	560	20	28
	Threshing	10,636 sacks†	100 sacks	107	20	6
	Harvesting (with combine)	237 acres †	5.0 acres	48	20	3
	Olives: Picking for pickling	1,374 tons †	210.0 pounds	13,086	20	655
	Prunes: Dipping and sun-drying	247 tons †	〃	225	7	33 (Oct. 1-10)
	Walnuts: Knocking and hulling (by hand)	44 tons †	200.0 pounds	440	20	22
	Totals			15,294	20	765 man-months
November	Sorghums -- for grain: Cutting heads (by hand)	52 acres †	0.75 acre	70	21	4
	Threshing	3,546 sacks†	100 sacks	36	21	2
	Harvesting (with combine)	26 acres †	5.0 acres	6	21	1
	Almonds: Pruning	398 acres †	2.0 acres	199	21	10
	Apricots: Pruning	110 acres †	0.2 acre	550	10	55 (Nov. 15-30)
	Nectarines: Pruning	13 acres †	0.2 acre	65	10	7 (Nov. 15-30)
	Olives: Pickling	292 tons †	210.0 pounds	2,781	21	133
	Peaches: Pruning	266 acres †	0.2 acre	1,330	10	133 (Nov. 15-30)
	Spraying	997 acres †	1.33 acres	750	21	36
	Prunes: Pruning	500 acres †	0.85 acre	589	10	59 (Nov. 15-30)
	Totals			6,376	21	304 man-months
December	Almonds: Pruning	398 acres †	2.0 acres	199	16	13
	Apricots: Pruning	220 acres †	0.2 acre	1,100	16	70
	Brush disposal	103 acres †	2.5 acres	42	16	3
	Nectarines: Pruning	27 acres †	0.2 acre	135	16	9
	Brush disposal	12 acres †	2.5 acres	5	16	1
	Olives: Picking for oil	139 tons †	450.0 pounds	618	16	39
	Peaches: Pruning	532 acres †	0.2 acre	2,660	16	167

Table continued on next page.

Table 3 continued.

Month	Crop and task	Size of task	Output per man-day	Required man-days	Available days	Required number of workers*
December (cont.)	Prunes: Pruning	999 acres†	0.85 acre	1,176	16	74
	Totals			5,935	16	371 man-months

* On a monthly basis unless otherwise noted.

† Portion of task performed by seasonal help.

‡ It should be noted that this figure, rather than representing the total number of individuals required, represents the number of man-months of labor required and is derived by dividing the number of man-days of labor by the average number of days available for work during the month.

§ A total of 12 man-days per acre is required for pruning, stringing, and training of hops which is divided approximately as follows: March, April, and May, 3.6 man-days per acre, per month, and June 1-15, 1.2 man-days per acre.

¶ Dry-yard labor, other than cutting, estimated to be as follows:

Apricots -- 11 man-hours per fresh ton.
Peaches -- 11.5 man-hours per fresh ton.
Prunes (with dehydrator) -- 6 man-hours per fresh ton
Prunes (sun drying) -- 8.3 man-hours per fresh ton.

|| Green weight.

TABLE 4

Summary of Seasonal Labor Needs by Months

Tehama County

1935

Month	Required man-days of seasonal labor	Available days	Required man-months of seasonal labor
January	6,972	17	411
February	4,250	18	237
March	1,439	19	76
April	6,736	21	321
May	13,989	22	636
June	11,157	25	447
July	20,304	26	781
August	29,776	26	1,146
September	26,795	25	1,072
October	15,294	20	765
November	6,376	21	304
December	5,935	16	371
Total	149,023	--	6,567

Notes

Notes on Table 2.-- Data concerning "time of need" as shown in this table break down required seasonal labor into the period in which the work is performed in order to permit a subsequent determination of labor needs by months (table 3). Some operations are performed only to a limited extent with seasonal labor. For instance, only about 50 per cent of the labor in putting up alfalfa is done by seasonal workers. When a job extends over several different months, the proportionate amount for each month is shown.

The amount of work done each month is based on the cropping system followed during 1935. The allotting of amounts of work is based on findings concerning local farm practices, and required time to "make" a crop resulting from inquiry of producers, and records of carlot shipments, the latter proving helpful in fixing dates of planting and of subsequent tasks involved in producing certain crops. Proportionate amounts of output harvested each month were determined from data of local practices with respect to harvesting, and from carlot shipments of perishable products. Records of truck shipments were also used when available.

Notes on Table 3.-- Table 3 is the condensed summary of labor needs as worked out for Tehama County as a result of findings pertinent to 1935. The data are presented by months with the tasks which were performed in each month indicated by both crop and task. The size of the job was calculated from the data appearing in table 1 (acreage and production) and table 2 (task, time of performance, and percentage of work pertinent to a given month). The output per man-day was calculated as indicated in the foreword presenting table 3. The number of required man-days is a result of dividing the size of task by output per man-day. The available days for the different tasks involve two variables. The first is the number of days when field work is possible because of favorable weather conditions. The basis for this column was determined from a study of the monthly weather charts of the United States Weather Bureau for the years 1933, 1934 and 1935. These data indicated available days per month as follows (based on a 26-day working month without allowance for holidays):

Month	Available days	Length of work day	Month	Available days	Length of work day
		hours			hours
January	17	8	July	26	9
February	18	8	August	26	9
March	19	9	September	25	9
April	21	9	October	20	9
May	22	9	November	21	8
June	25	9	December	16	8

Source of data: Based on precipitation records of the Red Bluff station of the United States Weather Bureau for the years 1933, 1934, and 1935.

The second factor influencing the number of available days was the size of the job. If the output was only a few cars, then the number of days was limited to the time needed to get out those cars efficiently. If a field operation had to be performed in a period less than the number of available days in the month, then the specific number of days was noted. These restrictions are shown in parentheses. For example, in July the picking of peaches is limited to the last 10 days of the month.

The totals of table 3 show the total required man-days of needed seasonal labor, the available days for field work during the month, and the necessary number of men (as defined in the opening paragraph of table 3) required on a monthly basis to care for the tasks ordinarily performed by seasonal workers.

Tehama County is devoted less to annual crops, the nature of which makes possible marked changes in acreage from year to year, than are many counties. However, findings as set forth in this report are bound to fluctuate materially from year to year because of variable seasonal conditions affecting yields, time of performing operations, and available days; and because of harvesting operations on certain crops being speeded up to supply a good market, or retarded to avoid a poor one, resulting in marked variations in the need for harvest labor. In addition, although a good deal of the agriculture of the county is not of an annual nature, market outlook would have some effect upon what and how much acreage is planted, and thus have an effect upon the demand for seasonal labor.